

Experimental Enhanced Thunder Product in the SPC Product Suite

NWS Product Description Document (PDD)

Part 1 - Mission Connection

The Storm Prediction Center is the National Weather Service's center of expertise for forecasting convection, including economically-disruptive weather events such as tornadoes, large hail, damaging winds and heavy rainfall. Included within the severe thunderstorm outlooks is a forecast for a 10% or greater probability of thunderstorms. These thunderstorm forecasts cover a 24 hour period with only the 10% probability contour, and thus provide little in the way of temporal or spatial resolution. The forecast of thunderstorms is critical for the protection of life and property as every thunderstorm contains lightning that is a potential killer.

This Product Description Document describes an improved thunder guidance product that adds greater specificity for the probability of lightning production (i.e., Thunderstorms). The additional temporal and spatial resolution in the experimental thunderstorm outlooks provide better lightning forecast guidance for local NWS Weather Forecast Offices, emergency managers, media, and the general public. The enhanced product changes the temporal subdivision of the convective day to provide improved guidance on whether thunderstorms are expected to continue into the overnight hours. To accomplish this, the breakpoint between the two probabilistic products will be shifted from 0000 UTC to 0300 UTC.

Comments:

The experimental product was discussed with positive response at a Partners Workshop held in June 2004. This season the SPC will make the enhanced thunderstorm outlooks open to all customers through its web site at <http://www.spc.noaa.gov/products/exper/enhtstm/>. Web feedback from the broader community will be sought via an internet link on the product web page, *beginning on 1 April, 2006 and ending on 1 September 2006*, at which time a decision to end testing, revise the test or to continue on the path to operational production will be made. Since the product would be in the public domain, this outlook can be repackaged and re-transmitted in accordance with standard NWS product use policies. Pending continued success, the SPC plans to distribute these probabilistic thunderstorm outlooks via AWIPS and the NDFD for use by both NWS WFOs and NOAA partners. An NWS Service Change Notice (SCN) will be issued prior to official product distribution.

Part II - Technical Description

The enhanced thunder product will consist of CONUS Day 1 forecasts for 1200 - 0300 UTC and 0300 - 1200 UTC at 0600 UTC, 1300 UTC, 1630 UTC and 2100 UTC, with only a forecast for 0300 - 1200 UTC produced with 0100 UTC Day 1 Convective Outlook. Each of these products will contain 10%, 40% and 70% contours for the probability of thunderstorms during the forecast period. Similar outlooks have been produced both internally and publicly by the SPC two years and verification indicated these forecasts are skillful and statistical reliability. These thunderstorm hazard probabilities will provide SPC customers and partners with information that will help them provide better public safety for the United States public.